

APPLICANTS: Comb *et al.*  
U.S.S.N.: 10/014,485

### Amendments to Claims

Kindly withdraw claims 1, 17-20, 22, and 27-45, cancel claims 5-10, and amend claims 2-4, 11-13, 15, 16, 21, and 23-25, as indicated in the following complete listing of claims:

### Listing of Claims

1. (withdrawn).
2. (presently amended) The method of claim [1] ~~3~~, further comprising the step of utilizing spleen cells from the host of step (b) to generate at least one monoclonal, motif-specific, context-independent antibody.
3. (presently amended) A method for producing a motif-specific, context-independent antibody that [recognizes] specifically binds a recurring, modified motif in a plurality of peptides or proteins within [a genome that contain the motif] an organism in which it recurs, said method comprising the steps of:
  - (a) constructing a degenerate peptide library comprising (i) a fixed target motif comprising [one] ~~two~~ to six invariant amino acids including at least one modified amino acid, and, optionally, one or more degenerate amino acid position(s), and (ii) a plurality of degenerate amino acids flanking said motif;
  - (b) immunizing a host with said peptide library to raise a context-independent antibody specific for [a motif consisting of] all or part of said target motif; and
  - (c) isolating antisera from said host, and purifying the motif-specific, context-independent antibody of step (b) from said antisera, said antibody [recognizing] specifically binding said motif in a plurality of peptides or proteins within [a genome that contain said motif] an organism in which it recurs.

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4. (presently amended) The method of claim 3, wherein said modified amino acid is a selected from the group consisting of a phosphorylated amino acid, an acetylated amino acid, a methylated amino acid, and a nitrosylated amino acid.
5. (cancelled).
6. (cancelled).
7. (cancelled).
8. (cancelled).
9. (cancelled).
10. (cancelled).
11. (presently amended) The method of claim 3, wherein said target motif comprises all or part of a kinase consensus substrate motif or a protein-protein binding motif.
12. (presently amended) The method of claim 11, wherein said kinase consensus substrate motif is selected from the group consisting of a MAPK consensus substrate motif, a CDK consensus substrate motif, a PKA consensus substrate motif, an AKT consensus substrate motif, a PKC consensus substrate motif, and an ATM consensus substrate motif, and wherein said protein-protein binding motif is selected from the group consisting of a 14-3-3 consensus binding motif[s], and a PDK1/bulky-ring consensus docking motif.
13. (presently amended) The method of claim 11, wherein said kinase consensus substrate motif is selected from the group consisting of a PKC Zeta consensus substrate motif, an ABL kinase consensus substrate motif, a CDK5 consensus substrate motif, an insulin receptor consensus substrate motif, a CaMKII consensus substrate motif[s], a Src kinase consensus substrate motif[s], a CDC2/CDK2 consensus substrate motif[s], and a GSK3 kinase consensus substrate motif[s], and wherein said protein-protein binding is a a PI3K P85 consensus binding motif.
14. The method of claim 3, wherein said target motif is phosphothreonine-X-(R/K) or proline-phosphoserine-proline.

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15. (presently amended) The method of claim [1 or] 3, wherein said peptide library is from 6 to 20 amino acids long.

16. (presently amended) The method of claim [1 or] 3, wherein said peptide library is from 6 to 14 amino acids long.

17. (withdrawn).

18. (withdrawn).

19. (withdrawn).

20. (withdrawn).

21. (presently amended) A motif-specific, context-independent antibody [which recognizes a plurality of peptides or proteins within a genome that contain said motif] that specifically binds a recurring phosphorylated motif comprising (i) [one] two to six invariant amino acids including at least one [modified] phosphorylated amino acid, and, optionally, (ii) one or more degenerate amino acid position(s), said antibody specifically binding said motif in a plurality of peptides or proteins within an organism in which it recurs.

22. (withdrawn).

23. (presently amended) The antibody of claim 21[2], wherein said motif consists of all or part of a kinase consensus substrate motif or a protein-protein binding motif.

24. (presently amended) The antibody of claim 23, wherein said kinase consensus substrate motif is selected from the group consisting of a MAPK consensus substrate motif, a CDK consensus substrate motif, a PKA consensus substrate motif, an AKT consensus substrate motif, a PKC consensus substrate motif[s], and an ATM consensus substrate motif[s], and wherein said protein-protein binding motif is selected from the group consisting of a 14-3-3 consensus binding motif, and a PDK1/bulky-ring consensus docking motif.

25. (presently amended) The antibody of claim 23, wherein said kinase consensus substrate motif is selected from the group consisting of a PKC Zeta consensus substrate motif, an ABL kinase consensus substrate motif, a CDK5 consensus substrate motif, an insulin receptor

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consensus substrate motif, a CaMKII consensus substrate motif, a Src kinase consensus substrate motif, a CDC2/CDK2 consensus substrate motif, and a GSK3 kinase consensus substrate motif, and wherein said protein-protein binding motif is a PI3K P85 consensus binding motif.

26. The antibody of claim 21, wherein said motif is phosphothreonine-X-(R/K) or proline-phosphoserine-proline.

27. (withdrawn).

28. (withdrawn).

29. (withdrawn).

30. (withdrawn).

31. (withdrawn).

32. (withdrawn).

33. (withdrawn).

34. (withdrawn).

35. (withdrawn).

36. (withdrawn).

37. (withdrawn).

38. (withdrawn).

39. (withdrawn).

40. (withdrawn).

41. (withdrawn).

42. (withdrawn).

43. (withdrawn).

44. (withdrawn).

45. (withdrawn).